

**REMARKS**

Reconsideration is requested.

Claim 1 has been amended to recite further patentable aspects of the disclosure. Support for the amendment may be found, for example, in Table 1 on page 57 of the specification. No new matter has been added. The amendment is not believed to raise new issues requiring further search and/or consideration. Entry of the present Amendment is requested.

The claims are submitted to be patentable over the art of record and consideration of the following in this regard is requested.

The following list of art has been cited in the rejections of the claims contained in the Office Action of March 23, 2007, and the documents will be referred to herein by the document numbers, or "D" numbers, shown:

D4 – U.S. Patent No. 4,625,220 (Nagashima);

D5 – U.S. Patent No. 4,723,129 (Endo);

D6 – U.S. Patent No. 6,715,869 (Reem);

D14 – U.S. Patent No. 5,464,883 (Sharma);

D15 – U.S. Patent No. 5,922,118 (Johnson);

D16 – U.S. Patent No. 6,454,402 (Koitarbashi);

D17 - U.S. Patent No. 5,977,209 (Breton);

D18 - U.S. Patent No. 6,384,108 (Breton);

D19 - U.S. Patent No. 6,533,408 (Erdtmann); and

D20 - US Patent Application Publication No. 2003/0018100 (Foucher).

The following art rejections are understood to be asserted in the Office Action of March 23, 2007:

(1) Claims 1, 4, 9-10, 15-17, 22-23 and 26-30 have been rejected as allegedly being anticipated by D17 "taken in view of the evidence given in" D18, D4 and D5;

(2) Claim 5 has been rejected as allegedly having been obvious over the combination of D17 and D14;

(3) Claims 7 and 8 have been rejected as allegedly having been obvious over the combination of D17 and D15;

(4) Claims 12-14 have been rejected as allegedly having been obvious over the combination of D17 and D19;

(5) Claims 1, 4, 9-10, 15-17, 22-23 and 26-30 have been rejected as allegedly having been obvious over the combination of D17, D18, D4 and D5;

(6) Claim 5 has been rejected as allegedly having been obvious over the combination of D17, D18, D4, D5 and D14;

(7) Claims 7 and 8 have been rejected as allegedly having been obvious over the combination of D17, D18, D4, D5 and D15;

(8) Claims 12-14 have been rejected as allegedly having been obvious over the combination of D17, D18, D4, D5 and D19;

(9) Claims 1, 4, 9-10, 15-17, 22-23 and 26-30 have been rejected as allegedly having been obvious over the combination of D20 and D16;

(10) Claim 5 has been rejected as allegedly having been obvious in view of D20, D16 and D14;

(11) Claims 7 and 8 have been rejected as allegedly having been obvious in view of D20, D16 and D15;

(12) Claims 12-14 have been rejected as allegedly having been obvious over D20, D16 and D19;

(13) Claims 18-21 and 24-25 have been rejected as allegedly having been obvious over D6 and D18; and

(14) Claims 18-21 and 24-25 have been rejected as allegedly having been obvious over D6 and D20.

**Rejections (1)-(8) and (13)**

Each of these rejections rely on D17 and D18.

The claims are submitted to be patentable over the cited combinations of references with D17 and/or D18 and consideration of the following in this regard is requested.

The presently claimed invention requires a polyester resin containing a polybasic carboxylic acid ingredient and a polyhydric alcohol ingredient, the polybasic carboxylic acid ingredient containing three or more dicarboxylic acids which include at least aromatic dicarboxylic acid having a metal sulfonate group and aromatic dicarboxylic acid not having a metal sulfonate group, wherein a ratio of the aromatic dicarboxylic acid having a metal sulfonate group contained in the polybasic carboxylic acid ingredient is 0.5 mol % or more and 4 mol % or less.

The Examiner is understood to believe that D18, for example, discloses sulfonated polyester obtained from 50 mol % diol such as alkylene glycol and 50 mol % diester which comprises 2.5-15 mol % sulfonated aromatic moiety, i.e., aromatic

dicarboxylic acid having metal sulfonate group, and 35-47.5 mol % diester such as that disclosed at col. 4. lines 48-61.

The applicants believe however, that the Examiner's interpretation of the reference(s) is not correct.

Specifically, the applicants believe that column 4, lines 48-61 of D18, for example, disclose that the emulsifiable polymer resin comprises about 50 mol % of a diol and about 50 mol % of a diester, and that the diester component in the emulsifiable polymer resin is preferably a mixture of about 2.5-15 mol % of a sulfonated aromatic moiety, and the remaining portion is about 35-47.5 mol % of a diester such as dimethyl terephthalate.

The value of 2.5-15 mol % described in this reference however is a ratio to the entire polymer resin, but not to the diester component. This interpretation is supported by the fact that  $(2.5\% + 47.5\%)$  and  $(15\% + 35\%)$  are both equal to 50 %, which value coincides with the ratio of the diester component to the polymer resin.

The value in the recitation of claim 1 of the present application however is not a ratio to the polyester resin, but rather a ratio to the polybasic carboxylic acid ingredient contained in the polyester resin.

The ratio of the sulfonated aromatic moiety to the diester component in D18, for example, is calculated to be 5-30 mol %, taking into account the ratio (50 %) of the diester component to the entire polymer resin.

Thus, the range from 0.5 mol % to about 4 mol % of the present claims does not overlap with the range of D18, for example, nor would the same have been obvious therefrom.

The secondary references fail to cure this deficiency in, for example, D18.

Withdrawal of rejections (1)-(8) and (13) is requested.

**Rejections (9)-(12) and (14)**

Each of these rejections rely on D20.

The claims are submitted to be patentable over the cited combinations of references with D20 and consideration of the following in this regard is requested.

The applicants previously noted that D20 teaches a resin with a ratio of the aromatic dicarboxylic acid having a metal sulfonate group contained in the polybasic carboxylic acid ingredient is 42.9 mol % which is not included in the range of the claimed invention, i.e., 0.5 mol % to 8 mol %. The Examiner is understood to have questioned the applicants calculation in this regard and the Examiner has provided her own calculation on pages 9-10 of the Office Action dated March 23, 2007 to allegedly demonstrate that reference D20 teaches a resin meeting the claimed requirement.

The applicants again submit however that D20 fails to teach or suggest the claimed ratio. The combination of cited art fails to cure this deficiency.

Specifically, the applicants submit that a ratio of 42.9 mol % of the aromatic dicarboxylic acid having a metal sulfonate group contained in the polybasic carboxylic acid is described, for example in paragraph [0060] of D20. In this paragraph, it is described that the resin is comprised of, on a mole percent basis, approximately 0.415 of terephthalate, 0.05 of aspartic acid 0.35 of sodium sulfoisophthalate, 0.375 of 1,2-propanediol, 0.025 of diethylene glycol, and 0.100 of dipropylene glycol. Dicarboxylic acids in this resin are terephthalate, aspartic acid and sodium sulfoisophthalate, and a total amount of these dicarboxylic acids is 0.815 mol % (0.415+0.05+0.35). Thus, the

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ratio of sodium sulfoisophthalate to the entire dicarboxylic acids is 0.429 (0.35/0.815),  
as previously presented.

One of ordinary skill in the art would not have been motivated by the cited  
combination of art to have modified the 42.9 mol % of D20, for example, to produce the  
presently claimed invention.

Withdrawal of the rejections (9)-(12) and (14) is requested.

The claims are submitted to be in condition for allowance and a Notice to that  
effect is requested. The Examiner is requested to contact the undersigned in the event  
anything further is required in this regard.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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